

New claims 1 - 20

1. A coil form (1, 1.1) for forming an inductive element with a core (11.1, 11.2), including
 - a) at least two coils,
 - 5 b) a hollow coil body (2) for insertion of the core, the coil body (2) being made of an electrically insulating material and
 - c) at least two separating plates (3, 3.1) which surround the outer surface of the coil body thereby providing at least one coil area (15, 15.1) on the outer surface of the coil body for holding a wire (16) that forms a part of a coil,
 - 10 characterised in that
 - d) each separating plate is made of metal, includes an opening (4) for pushing the separating plate over the coil body and a slit (5) for prohibiting short circuits and leakage currents within the separating plate, and in that the separating plate forms a winding of another coil (16);
 - 15 e) the separating plates are spaced at a specific plate-distance,
 - f) where a ratio of the plate-distance to a diameter of the wire is between 1 and 2.
2. A coil form according to claim 1, characterised in that the coil body (2) includes a coil portion (6) of a kind of a hollow cylinder for slipping over the separating plate (3) and a
20 flange portion (7) on an end region of the coil portion.
3. A coil form according to claim 2, characterised in that it includes two separating plates and in that the coil portion includes a second flange portion on a second end region of the coil portion, the flange portions forming a side support for the separating plates.

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4. A coil form according to claim 3, characterised in that it includes four separating plates and a projection (123) that surrounds the outer surface of the coil body (102), the projection forming a side support for two separating plates.

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5. A coil form according to claim 4, characterised in that a ratio of the plate-distance to a diameter of the wire is between 1.1 and 1.4.

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6. A coil form according to any of claims 1 to 5, characterised in that the coil portion (106) includes a recess (127) on an inner surface and an opening (126) in its outer surface in a region of said recess, where said wire (128) is fed from an outside of the coil portion to an inside of the coil portion through said recess and from the inside of the coil portion to the outer surface of the coil portion through said opening.

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7. A coil form according to any of claims 1 to 6, characterised in that said flange portion includes a plurality of holes, where a pin (125) is inserted into at least one hole, said pin being electrically conductively connectable to an end of one of the coils.

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8. A coil form according to any of claims 1 to 7, characterised in that two or more separating plates are electrically conductively connected to form a plurality of windings of the second coil.

9. A coil form according to any of claims 1 to 8, characterised in that a shape of the opening (4) of the separating plate substantially corresponds to a shape of the outer

surface of the coil body and in that an internal diameter of the separating plate is smaller than an outer diameter of the coil body.

5 10. A coil form according to any of claims 1 to 9, characterised in that the coil body comprises at least two elements (20.1, 20.2) with means (21, 22) to fit the elements together to form the coil body.

10 11. A coil form according to claim 10, characterised in that the coil body comprises a first and a second element (20.1, 20.2) and in that the means to fit the elements together include a recess (21) on the first element and a corresponding projection (22) on the second element.

15 12. A coil form according to any of claims 10 to 11, characterised in that the coil portion is of a kind of a right cylinder, where the coil body is separated into two elements by a plane being perpendicular to a base plane of the right cylindrical coil portion.

20 13. A coil form according to claim 2, characterised in that the coil portion includes a recess (8) for positioning of the separating plate and in that the flange portion includes a plurality of terminals (9) where at least one terminal is electrically conductively connectable to an end of one of the at least two coils.

25 14. A coil form according to any of claims 1 to 13; characterised in that a single separating plate is replaced by a plate group (130) where each plate group includes two separating plates and an insulation plate (119) between the separating plates.

5 15. An inductive element with a coil form according to any of claims 1 to 14, including a core (11.1, 11.2) inserted into the hollow coil body, a wire provided on the outer surface of the coil body forming a part of a first coil of the inductive element and a metallic separating plate that surrounds the outer surface of the coil body and forms a part of another coil of the inductive element.

10 16. An inductive element according to claim 15, characterised in that the core (11.1, 11.2) of the inductive element has a shape of two rectangular portions with a common edge (13), where the common edge is inserted into the hollow coil body and whereby the core preferably includes two E-shaped parts (11.1, 11.2).

15 17. An inductive element according to any of claims 15 to 16, characterised in that it includes at least two coil forms according to any of claims 1 to 13, where the core (11.1, 11.2) is inserted into the hollow coil body of each coil form.

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20 18. Method for forming an inductive element with a hollow coil body (2), a core (11.1, 11.2) and at least two coils, characterised in that a coil area is provided by pushing at least two metallic separating plates (103) with an opening over the coil body and positioning the separating plates at a specific plate-distance by winding a wire in said coil area around an outer surface of the coil body thereby pressing the separating plates against a side support, where a part of a coil is provided by said wire and a winding of another coil is provided by a metallic separating plate (3).

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25 19. Method according to claim 18, characterised in that said wire is fed from an outside of the coil body (102) to an inside of the coil body through a recess (127) on an inner surface of the coil body and from said recess to the outer surface of the coil body through an opening (126) in the coil body in a region of said recess.

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- 5 20. Method according to any one of claims 18 or 19, characterised in that a plurality of coil areas (124) provided by pushing a plurality of metallic separating plates over the coil body and spacing them equally at a specific plate-distance and in that a wire (128) is wound around the outer surface of the coil body in each coil area simultaneously.